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Dibenz[*a*,*h*]anthracene
(DBA)

1929 Clar reported the synthesis of the chemical dibenz[*a*,*h*]anthracene. [1]

1930 Kennaway and Hieger tested dibenz[*a*,*h*]anthracene for its carcinogenic activity in mice; this compound was recognized as being similar to the first identified coal tar constituent, benzo[*a*]pyrene, shown to be carcinogenic. [2]

1937 Andervont produced adenomata, squamous cell carcinomata and adenocarcinomata in the lungs of mice by the direct introduction of DB[*a*,*h*]A via a DB[*a*,*h*]A-coated silk thread run through the chest cavity and left within the lung. [3]

1939 Magnus took 125 mice and fed them a 0.4% solution of DB[*a*,*h*]A in olive oil. The solution was introduced via the stomach; the original purpose to test the subject for effects on the stomachs. However, the mice began to die of lung tumors. In an alternate experiment, carmine and carbon black were introduced by the same route with traces of the substances evident in the lunge upon autopsy. Of the 63 mice which survived the injection period (20 months) 95.2% died with pulmonary tumors, 75% being malignant. The carcinogen not only significantly increased the incidence of benign bronchial papillomata but also doubled the incidence of malignancy of the tumors. [4]

1956 Tebbens *et al.* found DB[*a*,*h*]A to be a very potent carcinogen, suspected to be the product of the

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incomplete combustion of solids, liquids and gaseous fuels. [5]

1958 Van Duuren positively identified dibenz[*a*,*h*]anthracene in an investigation of the chemistry of cigarette mainstream smoke and listed the compound as a potent carcinogen. [6]

1958 Pietzsch reported dibenz[*a*,*h*]anthracene as a carcinogenic hydrocarbon in cigarette smoke. [7]

1963 Dibenz[*a*,*h*]anthracene was cited by Wynder and Hoffmann as having high carcinogenic activity and being present in cigarette mainstream smoke. [8]

1977 The Royal College of Physicians characterizes polycyclic aromatic hydrocarbons as one of the two (along with N-nitroso compounds) chief initiators of cancer in tobacco smoke. [9]

1981 Dibenz[*a*,*h*]anthracene was listed as a carcinogen by the Environmental Protection Agency. [10]

1982 IARC found sufficient evidence to consider dibenz[*a*,*h*]anthracene carcinogenic to experimental animals. [11]

1982 The Third Annual Report on Carcinogens found sufficient evidence to consider dibenz[*a*,*h*]anthracene carcinogenic in experimental animals.

"Dibenz[*a*,*h*]anthracene and benzo[*a*]pyrene appeared to be equally effective .... In a dose response study ... on subcutaneous carcinogenicity with dibenz[*a*,*h*]anthracene, benzo[*a*]pyrene and 3-methylcholanthrene, dibenz[*a*,*h*]anthracene was shown to be effective at a lower dose than that effective for benzo[*a*]pyrene or 3-methylcholanthrene; its latent period was longer."

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"The highest concentrations of dibenz[*a*,*h*]anthracene have been reported in airborne soot and in coal tar containing 64 to 705 mg/1000m^3 and 230 milligrams per kilogram, respectively. [12]

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